

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work

Farm Name: Paul B. Barringer II, et al **Operator Well No.** PMOG 23A

LOCATION: Elevation: 1243 Quadrangle: Swandale

District: Buffalo **County:** Clay

Latitude: 1675 Feet South of 38 Deg. 30 Min. 00 Sec.

Longitude: 100 Feet West of 80 Deg. 55 Min. 00 Sec.

Company: Range Resources - Pine Mountain Inc

Address: P.O. Box 2136
Abingdon, Virginia 24212

Agent: **Geary Legg**

Inspector: Terry Urban

Date Permit Issued: 8/31/2005

Date Well Work Commenced: 1/12/2006

Date Well Work Completed: 3/08/2006

Verbal Plugging:

Date Permission granted on: _____

Rotary	X	Cable	Rig
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Total Depth (feet): 2255

Fresh Water Depth (ft.): 25, 51

Salt Water Depth (ft.):	1225
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Is coal being mined in area (N/Y)? N

Coal Depths (ft.): N/A

[illegible]

OPEN FLOW DATA

Producing Formation:	Big Lime	Pay zone depth	1960-2021	(ft)
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Gas: Initial open flow: _____ MCF/d Oil: Initial open flow: _____ Bbl/d

Final open flow: Trace MCF/d Final open flow: Bbl/d

<u>Time of open flow between initial and final tests</u>	<u>Hours</u>
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Static Rock Pressure	150	Psig (surface pressure) after	Hours
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Second Producing Formation:	Pay zone depth	(ft)
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Gas: Initial open flow:	MCF/d	Oil: Initial open flow:	Bbl/d
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Final open flow: MCF/d Final open flow: Bbl/d

Time of open flow between initial and final tests	Hours
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Static Rock Pressure	Psig (surface pressure) after	Hours
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NOTE: ON THE BACK OF THIS FORM PUT THE FOLLOWING: 1) DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2) THE WELL LOG, WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS. INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed: Rand Resources - Pine Mountain Inc.

By: Laura M. Murphy

Date: 4-11-13

Completion Data

	Stage 1		Stage 2	
Date	1/12/2006		2/16/2006	
Frac				
Formation(s)	Big Lime		Big Lime	
Interval	2016-2021		1960-2018	
# of Perf	11		12	
BD Press	0	psi	2789	psi
Avg Treating Press	1925	psi	2595	psi
Max Treating Press	2705	psi	4114	psi
Avg Rate (dh)	19.6	bpm	14	bpm
ISIP	2280	psi		psi
5 min SIP	1877	psi		psi
Total Acid	100/15%HCl	gal	36/15%HCl	gal
Total N2	273800	scf	76500	scf
Total H2O	159	bbl	77	bbl
Total Sand	450	sx	44	sx
Screened Out				

Geologic Data

Formation	Top (ft)*	Bottom (ft)*
Shale and Sand	0	1163
Salt Sand	1163	1347
Shale and Sand	1347	1434
Upper Maxon	1434	1447
Shale and Sand	1447	1598
Middle Maxon	1598	1652
Shale and Sand	1652	1734
Lower Maxon	1734	1770
Shale	1770	1814
Little Lime	1814	1854
Shale	1854	1868
Blue Monday	1868	1913
Big Lime	1913	2120
Shale	2120	2255
TD	2255	

* Depths 10 ft KB

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APR 15 2013

WV Department of
Environmental Protection

DATE: October 30, 2006
API # 047 - 015 - 02704

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

Well Operator's Report of Well Work

Farm Name: Paul B. Barringer II, et al Operator Well No. PMOG 58

LOCATION: Elevation: 1244 Quadrangle: Swandale

District: Buffalo **County:** Clay

Latitude: 12100 Feet South of 38 Deg. 30 Min. 00 Sec.

Longitude 11150 Feet West of 80 Deg. 52 Min 30 Sec.

Company: Pine Mountain Oil & Gas, Inc

Address: **P.O. Box 2136**

Abingdon, Virginia 24212

Agent: Tom Young

Inspector: Terry Urban

Date Permit Issued: 10/15/03

Date Well Work Commenced: 4/30/04

Date Well Work Completed: _____

Verbal Plugging:

Date Permission granted on:

Rotary	X	Cable	Rig
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Total Depth (feet): 3999

Fresh Water Depth (ft.): 50,595

Salt Water Depth (ft.): _____

Is coal being mined in area (N/Y)? N

Coal Depths (ft.):

[illegible]

OPEN FLOW DATA

Producing Formation:	Devonian Sand/Big Lime	Pay zone depth	(ft)
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Gas: Initial open flow:	MCF/d	Oil: Initial open flow:	Bbl/d
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Final open flow: _____ MCF/d Final open flow: _____ Bbl/d

Time of open flow between initial and final tests Hours

Static Rock Pressure	Psig (surface pressure) after	Hours
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Second Producing Formation: **Blue Monday** **Pay zone depth** **(ft)**

Gas: Initial open flow:	MCF/d	Oil: Initial open flow:	Bbl/d
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Final open flow: _____ MCF/d Final open flow: _____ Bbl/d

Time of open flow between initial and final tests	Hours
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Static Rock Pressure	Psig (surface pressure) after	Hours
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Signed: Range Resources – Pine Mountain, Inc.

By: Laura M. [Signature]

Date: 4/11/13

Completion Data

	Stage 1		Stage 2		Stage 3	
Date	12/08/04		8/22/2005		9/1/2005	
	75Q N2		75Q N2		75Q N2	
Frac	Foam		Foam		Foam	
Formation(s)	Dev Sand		Big Lime		Blue Monday	
Interval	3099-3116		1799-1962		1750-1757	
# of Perf	35		19		15	
BD Press	0	psi	3110	psi	566	psi
Avg Treating Press	2589	psi	3771	psi	2600	psi
Max Treating Press	3542	psi	4034	psi	2939	psi
Avg Rate (dh)	16	bpm	25	bpm	16	bpm
ISIP	1141	psi	2387	psi	1868	psi
5 min SIP	N/A	psi	2016	psi	1318	psi
Total Acid	546-15%HCl	gal	504-15%HCl	gal	504-15%HCl	gal
Total N2		scf	280,700	scf	199,700	scf
Total H2O	208	bbl	152	bbl	127	bbl
Total Sand	625	sx	407	sx	452	sx

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Geologic Data

Lithology	Color	Top	Bottom	Thickness
SANDSTONE		0	75	75
SHALE		75	130	55
SANDY SHALE		130	235	105
SHALE		235	265	30
SANDSTONE		265	320	55
SHALE		320	365	45
COAL		365	368	3
SHALE		368	390	22
COAL		390	393	3
SANDSTONE		393	480	87
SHALE		480	565	85
COAL		565	569	4
SANDY SHALE		569	637	68
COAL		637	640	3
SHALE		640	658	18
COAL		658	660	2
SHALE		660	674	14
COAL		674	677	3
SHALE		677	704	27
SANDSTONE		704	828	124
SHALE		828	845	17
SANDY SHALE		845	1000	155
SANDSTONE		1000	1050	50
SHALE		1050	1100	50
SANDSTONE		1100	1130	30
SANDY SHALE		1130	1234	104
SANDSTONE		1234	1285	51
SHALE		1285	1480	195
SANDSTONE		1480	1525	45
SANDY SHALE		1525	1620	95
SANDSTONE		1620	1706	86
LIMESTONE		1706	1759	53
LIMESTONE		1759	1770	11
SHALE		1770	1798	28
LIMESTONE		1798	2008	210
SILTSTONE		2008	2140	132
SHALE		2140	2405	265
SANDSTONE		2405	2420	15
SHALE		2420	4001	1581

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**WV Department of
Environmental Protection**

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: **Barringer, Paul B. II et al**Operator Well No.: **PMOG 61**LOCATION: Elevation: **1433.87**Quadrangle: **Swandale**District : **Buffalo**County : **Clay**Latitude : **9,290 Feet South of 38 Deg. 30 Min. 00 Sec.**Longitude: **8,750 Feet West of 80 Deg. 52 Min. 30 Sec.**

Company: **Range Resources – Pine Mountain Inc**
P. O. Box 2136
Abingdon, VA 24212

Agent: **GEARY LEGG**Inspector: **RICHARD CAMPBELL**Permit Issued: **11/22/2003**Well Work Commenced: **04/17/2004**Well Work Completed: **08/11/2004**

Verbal Plugging

Permission Granted on:

Rotary **X** Cable RigTotal Depth (feet): **6571 kb**Fresh Water Depths (feet): **48 kb**Salt Water Depths (feet): **1166 kb**Is coal being mined in area? (Y/N) **N**Coal Depths (feet): **NA**

Casing & Tubing	Used in Drilling	Left In Well	Cement Fill Up Cu.Ft.
16	24	24	
11-3/4	36	36	
9-5/8	231	231	248
7	2474	2474	169
4-1/2		3680	267

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OPEN FLOW DATA

**WV Department of
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Production Formation **Devonian/Injun/Big Lime/Blue Monday** Pay zone depth (ft)
1911-3223 kb

Gas: Initial open flow	N/A	MCF/d	Oil: Initial open flow	Bbl/d
Final open flow		MCF/d	Final open flow	Bbl/d
Time of open flow between initial and final tests				Hours
Static Rock Pressure	280		psig (surface pressure) after	Hours

Second Producing Formation		Pay zone depth (ft)	Gas:
Initial open flow	MCF/d	Oil: Initial open flow	Bbl/d
Final open flow	MCF/d	Final open flow	Bbl/d
Time of open flow between initial and final tests			Hours
Static Rock Pressure		psig (surface pressure) after	Hours

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For: **Range Resources – Pine Mountain, Inc.**

By: *Laura Munn*
Date: **4/11/2013**

Open Mine

Abandoned mine 210-213 kb - run 11-3/4 liner from 189-225 kb

Plug Back

6295 – 6571 Cement plug

4100 – 6295 6% gel

3690 – 4100 Cement plug

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Completion

**WV Department of
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- 1st Stage: Perf 3310-3223 kb 17h, 3363-3367 kb 9h, 3386-3391 kb 11h, 3414-3420 kb 13h,
3530-3536 kb 13h – 63h total
Frac w/517 bbl 75Q N2 foam, BD @ 20 psi w/500 gal 15% HCl
Avg Rate – 35 bpm (dh), Avg Press – 1511 psi, Max Press – 1688 psi, Avg N2 – 14,600 scfm
Total N2 – 292,000 scf, Total 20/40 sand – 50,957#
- 2nd Stage: Perf 3267-3290 kb 47h
Frac w/393 bbl 75Q N2 foam, BD @ 1474 psi w/500 gal 15% HCl
Avg Rate – 30 bpm (dh), Avg Press – 1562 psi, Max Press – 1648 psi, Avg N2 – 11,500 scfm
Total N2 – 286,700 scf, Total 20/40 sand – 42,110#
- 3rd Stage: Perf 3222-3240 kb 37h
Frac w/492 bbl 75Q N2 foam, BD @ 2303 psi w/500 gal 15% HCl
Avg Rate – 30 bpm (dh), Avg Press – 1626 psi, Max Press – 2412 psi, Avg N2 – 12,900 scfm
Total N2 – 326,500 scf, Total 20/40 sand – 44,453#
- 4th Stage: Perf 2947-2952 kb 11h, 3076-3085 19h – 30h total
Frac w/289 bbl 75Q N2
Avg Rate – 16 bpm (dh), Avg Press – 1194 psi, Max Press – 1332 psi, Avg N2 – 5800 scfm
Total N2 – 131,300 scf, Total 20/40 sand – 26,433#
- 5th Stage: Perf 2157-2166 kb
Frac w/117 bbl 75Q N2 foam, BD @ 2756 psi w/672 gal 15% HCl
Avg Rate – 20 bpm (dh), Avg Press – 1246 psi, Max Press – 2756 psi,
Total N2 – 127.7 Mscf, Total 20/40 sand – 25,820#
- 6th Stage: Perf 2069-2119 kb
Frac w/112 bbl 75Q N2 foam, BD @ 3377 psi w/1470 gal 15% HCl
Avg Rate – 16.3 bpm (dh), Avg Press – 1889 psi, Max Press – 2181 psi,
Total N2 – 165.3 Mscf, Total 20/40 sand – 25,359#
- 7th Stage: Perf 1911-1928 kb
Frac w/112 bbl 75Q N2 foam, BD @ 710 psi
Avg Rate – 30.4 bpm (dh), Avg Press – 2167 psi, Max Press – 2592 psi,
Total N2 – 204.3 Mscf, Total 20/40 sand – 51,639#

Well Log

Formation	Top (ft)*	Bottom (ft)*
Lower Maxon		1801
Little Lime	1854	1906
Blue Monday	1906	1929
Pencil Cave Shale	1929	1950
Big Lime	1950	2152
Big Injun	2152	2167
Weir	2167	2470
Devonian Sand	3214	
Lower Huron	4439	4500
Rhinestreet	5314	5410
Marcellus	6517	
TD		6544

* Depths 10 ft KB

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WR-35
Rev (8-10)

Date April 12, 2013
API # 47 017 - 04811F

State of West Virginia
Division of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

Farm Name: Lemasters Operator Well No.: Sheets #3

LOCATION: Elevation: 958' Quadrangle: Sheets #3
District: McClelland County: Doddridge
Latitude: 10,450 feet South of 39 DEG. 25 MIN. 00 SEC.
Longitude: 3,730 feet West of 80 DEG. 32 MIN. 30 SEC.

Company:

Linn Operating LLC	Casing & Tubing Size	Used in Drilling	Left In Well	Cement Fill Up Cu. Ft.
Address: PO Box 1008	11 3/4"	185'	176'	75 sks
Jane Lew, WV 26378				
Agent: Gary Beall	8 5/8"	1360'	1312'	310 sks
Inspector: Mike Underwood				
Date Permit Issued: 3/6/2007	4 1/2"	2312'	2197'	120sks
Date Well Work Commenced: 3/19/2007				
Date Well Work Completed: 3/22/2007				
Verbal Plugging:				
Date Permission granted on:				
<input checked="" type="checkbox"/> Rotary Cable Rig				
Total Vertical Depth (ft): 2312'				
Total Measured Dept NA				
Fresh Water Depth (ft.): 45'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y) ? N				
Coal Depths (ft): NA				
Void(s) encountered (N/Y) Depth(s) NA				

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OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing Formation Big Injun Pay Zone 1988-2056
Gas: Initial Open Flow Show MCF/d Oil: Initial Open Flow Bbl/d
Final Open Flow Show MCF/d Final Open Flow Bbl/d
Time of open flow between initial and final tests Hours
Static rock pressure psig surface pressure after 24 Hours

Second Producing Formation Pay Zone
Gas: Initial Open Flow MCF/d Oil: Initial Open Flow Bbl/d
Final Open Flow MCF/d Final Open Flow Bbl/d
Time of open flow between initial and final tests Hours
Static rock pressure psig surface pressure after Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

4-15-13
Date

API 017-04811 F

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

1	1988' - 2056'	43 holes	279 sks 20/40 sand, 226,000scf N2

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Formations Encountered:	Top Depth	Bottom Depth
<u>Surface:</u>		
Sh	0	15
Sd/Sh	15	45
Sd/Sh	45	50
Sd/Sh	50	850
Sd/Sh	850	930
Sd/Sh	930	1320
Sd/Sh	1320	1380
Sh/Sh	1380	1845
Lime	1845	1875
Sh	1875	1885
Lime	1885	1980
Sd/Sh	1980	2130
Sd/Sh	2130	2312
TD	2312	

CR

WR-35
Rev (9-11)State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well WorkDATE: 02/01/2013
API #: 47-091-01126

REVISED

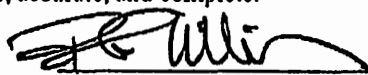
Farm name: Denjen, Richard L. Operator Well No.: W.M. Compton 1ALOCATION: Elevation: 1993' Quadrangle: Gladesville 7.5'District: Fetterman County: Taylor
Latitude: 4,500 Feet South of 30 Deg. 27 Min. 30 Sec.
Longitude 5,300 Feet West of 79 Deg. 55 Min. 00 Sec.Company: Petroleum Development Corporation

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>120 Genesis Boulevard</u>				
<u>Bridgeport, WV 26330</u>	<u>11 3/4"</u>	<u>33'</u>		
Agent: <u>Bob Williamson</u>	<u>8 5/8"</u>	<u>1054'</u>	<u>1054'</u>	<u>345</u>
Inspector: <u>Joe McCourt</u>	<u>5 1/2"</u>	<u>8092'</u>	<u>8092'</u>	<u>384</u>
Date Permit Issued: <u>04/23/2009</u>				
Date Well Work Commenced: <u>08/19/2009</u>	<u>2 3/8"</u>		<u>7914'</u>	
Date Well Work Completed: <u>11/02/2009</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>8041'</u>				
Total Measured Depth (ft): <u>8165'</u>				
Fresh Water Depth (ft.): <u>233', 270'</u>				
Salt Water Depth (ft.): <u>N/A</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>NR</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7935'
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 338 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure 1200 psig (surface pressure) after 48 HoursSecond producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.


Signature02/07/2013
Date

Were core samples taken? Yes _____ No XXWere cuttings caught during drilling? Yes XX No _____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Mud Log from 1100'- TD. Schlumberger
Dens/Neu/GR/Cal/PE & Dens/Neu/LaterLog/GR/Cal from 70' - 8165'. Schlum. CBL/GR/CL from 8080'-5800'. Schlum Dev Log from 8120-1065'.

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Perforated Intervals, Fracturing, or Stimulating:

10/23/09: MIRU Hotwell & perf Marcellus from 8063-73 & 8028-38. 11/02/2009: Two-stage Marcellus completion.

The first stage was a slickwater treatment with 2360 sks of 100 mesh and 2697.71 sks of 40/70 mesh white sands. The clean volume pumped was 10,503 bbl. The breakdown pressure was 3925 psi, with an initial ISIP of 3705 psi (FG=0.89). The well treated at an average rate of 65 bpm with an average treating pressure of 4980 psi. ISIP, 4094 psi. MIRU Hotwell & set Alpha plug @ 7990'.

Perf 2nd stage in Marcellus from 7935-7955. 2nd stage was a slickwater treatment with 2310 sks of 100 mesh and 2197.12 sks of 40/70 mesh white sands. The clean volume pumped was 8416 bbl. The breakdown pressure was 4135 psi, with an initial ISIP of 4144 psi

~~Plug Back Details including Plug Pipe and Depth:~~ (FG=0.95, possibly inflated due to the possible charge from stage I).

The well treated at an average rate of 75 bpm with an average treating pressure of 5890 psi. ISIP, 4250 psi.

Formations Encountered: _____ Top Depth _____ / _____ Bottom Depth _____
Surface:

Little Lime	1008	1022	Tully	7520	7648	
Big Lime	1044	1218	Marcellus	7984	8081	Gas
Injun	1218	1277	Onondaga	8081	8098	
Pocono	1308	1389	Huntersville	8098	8165	MD-TD
Berea	1404	1434				
50 Foot	1600	1622				
30 Foot	1644	1670				
4th Sand	2132	2170				
5th Sand	2242	2303				
Balltown	3170	3404				
Riley	3942	3951				
Benson	4199	4254				
Elks	4804	4858	Gas			
Sycamore	6780	6800				
Geneseo	7513	7520	Gas			